Passive Soil Gas Survey
SWMU 1
Status Update
Deseret Chemical Depot

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Weston Solutions, Inc.

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Presentation Outline

- Project Team
- Project Background
- Solid Waste Management Unit (SWMU) 1
- Objective of Passive Soil Gas Study
- Technical Approach
- Summary of Field Activities
- What's Next?

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Project Team

Prime Contractor – Weston Solutions, Inc.

- Contract Management and Oversight
- Unexploded Ordnance (UXO) Technicians for Safety Escort During Field Work

Teaming Subcontractor – Kleinfelder, Inc.

- Planning Documents
- Field Personnel for Sampler Deployment/Retrieval

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Project Background

- **July 2004** Passive Soil Gas Surveys Awarded for SWMU 1 and 25
- SWMU 25 was de-scoped from the contract to cover increased analytical costs for the projects
- **September 2005** SWMU 1 Project placed on hold in due to the discovery of potential chemical warfare material (CWM) on road by another government contractor conducting clearance operations at SWMU 1
- The potential CWM item was part of a chemical agent identification set (CAIS).
- CAIS vials contain a small amount of dilute chemical agent and were developed to help train troops for action in a chemical environment
- Until recently these were considered to be a chemical warfare material (CWM).
- In **April 2007** the Department of the Army issued a memorandum indicating that the CAIS items containing dilute chemical agents (CA) or industrial chemicals can be treated as hazardous waste
- **June 2007** project was reactivated

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Solid Waste Management Unit 1 (SWMU -1)

- Used to destroy chemical and conventional munitions from 1945 to 1978
- Tens of thousands of munitions were stacked on wooden dunnage, soaked in diesel fuel and burned in open trenches and pits
- Consists of 46 trenches and 27 known disposal pits
- Contamination detected in SWMU 1 during the Phase I RFI included:

  Explosives and petroleum hydrocarbons in groundwater and minor petroleum related contamination in soil
- Comprised of 93 Individual Disposal Features (IDFs)

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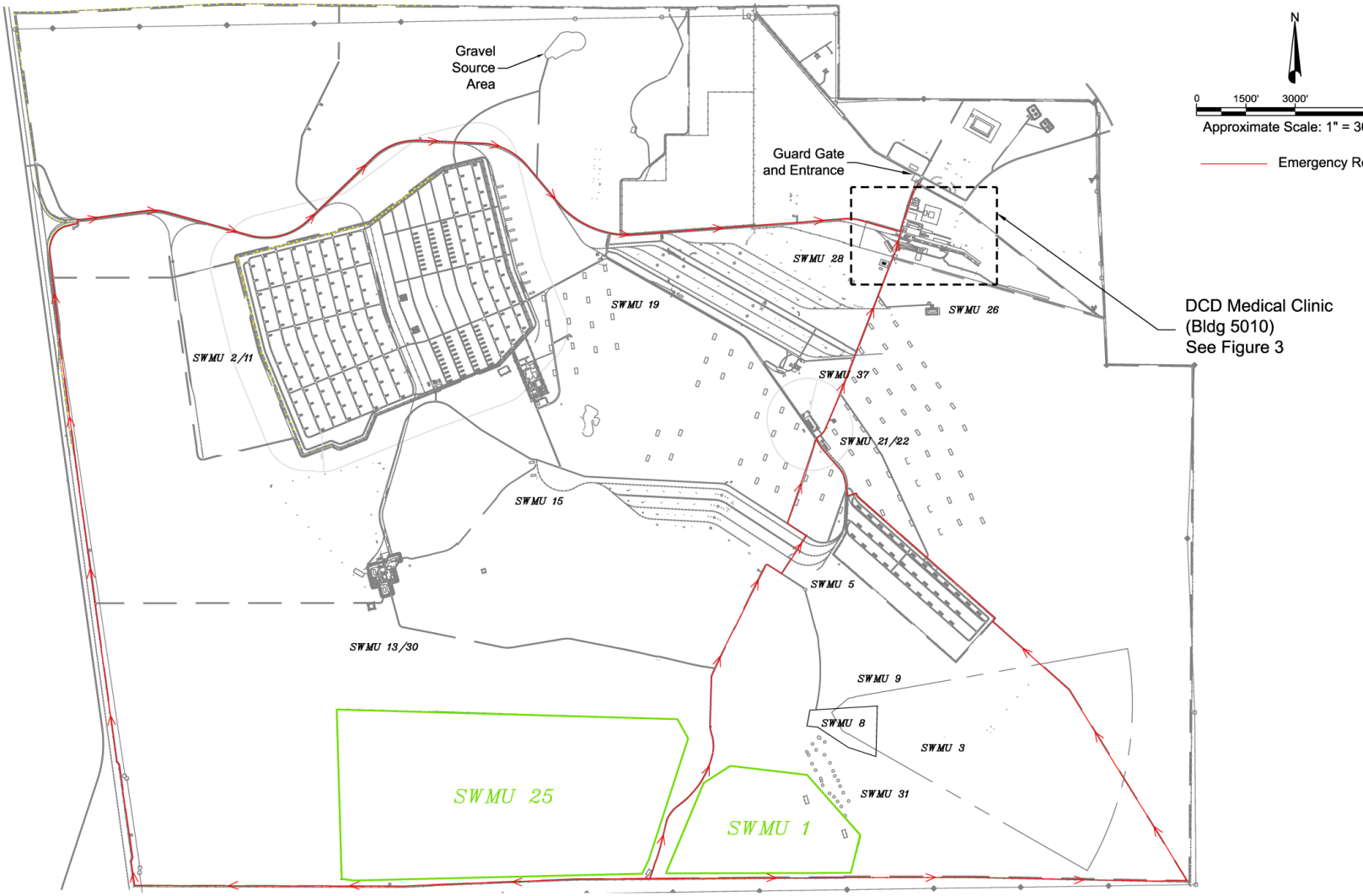
SWMU 1 Location



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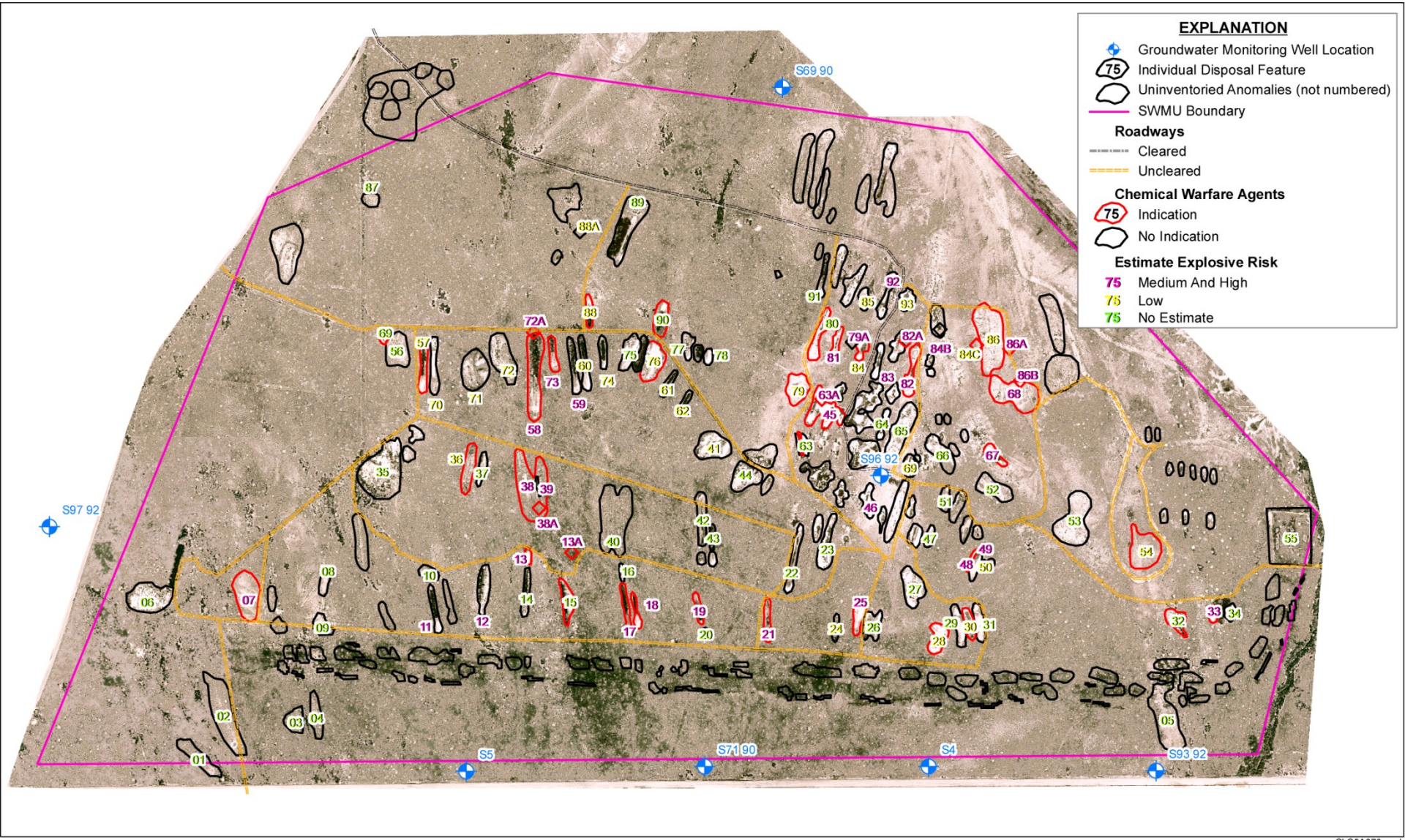
Date: 04/15/2005
Project Number 47684.2.2.1

Site Specific Safety and Health Plan
Deseret Chemical Depot
Stockton, Utah

SWMU 1 AND 25
LOCATION MAP AND EMERGENCY ROUTES TO DCD MEDICAL CLINIC

FIGURE
2

SWMU 1 ~ 373 Acres



Source:
September 27, 2000 digital aerial photography provided by USACE

0 100 200 400 600 800 1,000 1,200 Feet

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Date: 06/10/2005
Project Number: 47684.2.2

Passive Soil Gas Survey Work Plan
SWMU 1 and 25 Deseret Chemical Depot
Stockton, Utah

SWMU 1 SITE MAP

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FIGURE
2-2

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Objective of Passive Soil Gas Study

- Evaluate the presence or absence of contaminants of concern (COC) in soil gas at each identified IDF
- Phase I – Analyze for chemical Agent Breakdown Products (APBs) – Conducted Sept 29 to Oct 25 2008
- Phase II – Target “Hot Spots” identified during Phase I of the study and analyze for Chemical Warfare Agents (CWA)
- The resultant data will be considered qualitative screening-level data and will be used to prioritize future characterization

  sampling efforts

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Technical Approach

Technologies for collecting analytical information at the SWMUs were evaluated based on the challenges of access and sample collection in areas with potential UXO, CWM, and other

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Technical Approach
(continued)

- Passive Soil Gas Sampling was chosen as the most sensitive, safe, and cost-effective method for collecting analytical information at the SWMUs
- Passive soil gas sampling is the preferred technology because it is non-intrusive, therefore minimizing the risk to field personnel
- Other Passive Soil Gas technologies were evaluated prior to this work scope (Gore Sorbers)
- Beacon Environmental Services, Inc. was determined to provide the most effective system for soil gas sample collection and analysis based on the site conditions and COCs at SWMU 1 and 25

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EMFLUX® Passive Soil Gas Samplers

Advantages of the EMFLUX System

- Easily transported
- Can be used on sites with limited a
- No power equipment required
- Minimal handling concerns
- No waste from soil cuttings
- Non-intrusive
- Cost Effective

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Summary of Field Activities

(September 29 – October 25, 2008)

924 (Passive Soil-Gas Samplers Deployed/Retrieved)

- OBJECTIVE – COLLECT SAMPLES AT LOCATIONS WITH EVIDENCE O FPRIMARY DISPOSAL OPERATIONS
  - Trenches & Burn Areas
  - IDFs With Signage
  - Areas With Eroded Soil Trench Caps
  - Low Spots Within Explosion Craters
  - Consolidation Points (Discarded or Burned Materials)

- Sample Locations Selected Based on Sampling Criteria and Site Safety Issues
- #1 Priority – SAFETY
- Soil-gas samplers deployed within IDP footprint (if SAFE to do so)
- Soil-gas samplers deployed adjacent to IDP (if UNSAFE to place within)
- IDP's without discernable features (soil-gas samplers placed near middle of feature)
- Global Position System (GPS) used to record all sample locations

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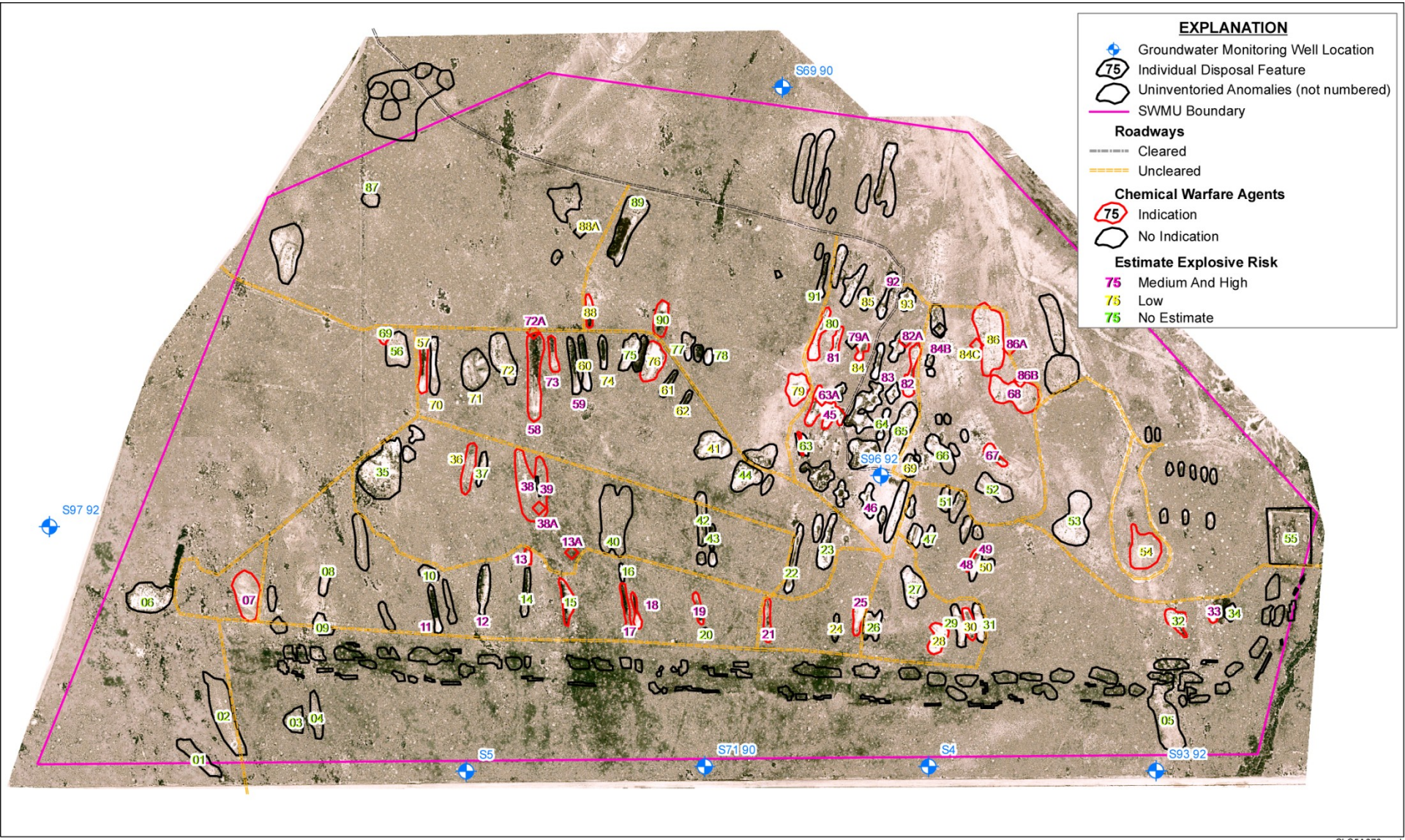

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Date: 06/10/2005
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Passive Soil Gas Survey Work Plan
SWMU 1 and 25 Deseret Chemical Depot
Stockton, Utah

SWMU 1 SITE MAP

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FIGURE
2-2

Sampler Deployment at SWMU 1

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Deployment of Sample Module and Flux Chamber at SWMU 1

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What's Next?

- Complete Phase II of the study (Summer 2009)
- Deploy passive soil-gas samplers in "hot spot" locations identified during Phase I of the study
- Samplers will be analyzed for CWA by the Edgewood Chemical and Biological Command
- Prepare Final Report of study findings

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QUESTIONS?

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